

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
INFORMATION EXCHANGE FOR MARINE EDUCATORS

DECEMBER 2008

This update is provided with support from NOAA's Office of Education and by the National Marine Protected Areas Center to share information pertinent to the marine educator community. It is intended to encourage exchange of information and programs. We hope that it will also promote collaboration among the different educators addressing similar issues in their programs.

Please share this email with your colleagues and constituents. If you request materials or respond to a request for information, please mention that you learned about it from NOAA's Information Exchange.

The information included here has been compiled from many different sources, including EE-NEWS@NAAEE, EEinGEORGIA, CREEC, the Scout Report, edinfo at FREE, scuttlebutt, NSTA Express, and others. We have verified web addresses, but make no guarantee that they will remain active. The Department of Commerce/NOAA does not necessarily endorse or promote the views or facts presented on these sites.

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Collected archives of the information presented in past newsletters are available at http://mpa.gov/helpful_resources/education_training.html. Contact the editor directly at phyllis.dermer@noaa.gov, or by phone at (865) 932-5074, to discuss further enhancements or to contribute information for future issues.

Notable References

Framework for a National System of Marine Protected Areas

The United States has developed a national system of marine protected areas to advance the conservation and sustainable use of the nation's vital natural and cultural marine resources. The national system is described in detail in the downloadable *Framework for a National System of Marine Protected Areas for the United States America*, the blueprint for a comprehensive, effective national system of MPAs, and the kickoff of the nomination process to incorporate existing federal, state, territorial, tribal, and local MPAs into the national system.

http://mpa.gov/national_system/national_system.html

Ocean Policy Recommendations for the New Administration

Both the Joint Ocean Commission and The Ocean Foundation have prepared recommendations for the new administration.

<http://www.jointoceancommission.org/>

<http://www.oceanfdn.org/index.php?tg=articles&topics=32>

MESSAGE FROM THE BRIDGE

Extreme Virtual Expeditions

Does the weather outside have you stuck in the classroom? Are your students getting restless as the holidays approach? Give them an experience like never before. Explore foreign and domestic seas or the deep ocean with a virtual expedition linked from the Bridge. In the past few weeks, we have seen teachers working with researchers in and around the Aquarius underwater habitat and an extreme deep sea adventure to the hydrothermal vents on the floor of the Pacific Ocean. Most of these virtual expeditions have daily blogs from the scientists, researcher profiles, amazing video and pictures, lesson plans, and some even include two-way communication events where your students can chat with the researchers in real-time. Students will be able see cutting edge science taking place right before them as they make connections between classroom science and its real-life application. The Bridge always features a great upcoming virtual expedition on the front page, so you are never more than a few clicks away from ground breaking research happening right before your eyes. Scientists planning expeditions in the coming months are encouraged to nominate their websites to the Bridge.

http://www2.vims.edu/bridge/search/bridge1output_menu.cfm?q=expedition

<http://www.marine-ed.org/bridge>

GRANTS AND OPPORTUNITIES

Action for Nature Young Eco-Hero Awards

Action for Nature seeks applications from students 8-16 for its Young Eco-Hero Awards program. The awards program recognizes the individual accomplishments of young people whose personal actions have significantly improved the environment. Projects must concern advocacy, environmental health, research, or protection of the natural world. The deadline for application is February 28, 2009.

<http://www.actionfornature.org/eco-hero/ecoheroawards.html>

Do Something Awards

The Do Something Awards honors outstanding leaders in two age categories, 18 and under and 19-25, who develop projects to improve their community in the areas of community building, health, or the environment. The deadline for application is March 1, 2009.

<http://www.dosomething.org/awards>

Dream it, Do it Challenge

MTV Switch and Ashoka GenV invite young people to submit their creative ideas to help improve the environment through the Dream It. Do It. Challenge. Applicants will be eligible for seed funding awards to make their ideas a reality. Up to twenty-five grants will be awarded. The deadline for application is December 31, 2008.

<http://www.mtv-venture.org/>

Earth Day 2009 T-Shirt Design Contest

Have your students get involved for Earth Day 2009 by entering the Earth Day 2009 T-Shirt Design Contest sponsored by the National Environmental Science Education Center, Inc. There are four divisions: K-3, 4-6, 7-9, and 10-12. The deadline for submission is March 13, 2009.

<http://www.nesecenter.com/page13/page13.html>

EPA Environmental Education Grants

The Grants Program sponsored by EPA's Environmental Education Division, Office of Children's Health Protection and Environmental Education, supports environmental education projects that enhance the public's awareness, knowledge, and skills to help people make informed decisions that affect environmental quality. The deadline for application is December 18, 2008.

<http://www.epa.gov/enviroed/grants.html>

Flagship Species Fund

Established as a joint initiative between the UK Department for Environment, Food and Rural Affairs and Fauna & Flora International, the Flagship Species Fund provides practical support to the conservation of endangered species and their habitats in developing countries. Emphasis is also placed on securing the backing of local communities and investigating means to share potential benefits from project activities such as eco-tourism initiatives and conservation monitoring. Funding in 2009 will be restricted to invertebrate projects. The deadline for applications is February 1, 2009.

<http://www.fauna-flora.org/fsf.php>

Geo Challenge Grants

Google.org is offering challenge grants to help non-profits to develop maps that communicate issues, help understand needs, and create more effective implementation plans. The deadline for application is December 22, 2008. Additional grants are expected to be offered at a later date if you can't meet this pilot grant deadline.

<http://www.google.org/geochallenge.html>

Intel Schools of Distinction Program

The Intel Schools of Distinction Program to Honor Excellence in Math and Science Education honors U.S. schools that have demonstrated excellence in math and science education. There are awards for elementary, middle, and high schools in each of two categories - math and science. The deadline for application is February 17, 2009.

<http://www.intel.com/education/schoolsofdistinction/>

Lowe's Toolbox for Education Grants

The Lowe's Toolbox for Education offers grants to schools and parent/teacher groups across the United States. School projects should encourage parent involvement and build stronger community ties. Samples of funded projects include those that engage students with their school's surrounding environment. The next deadline for application is February 13, 2009.

<http://www.toolboxforeducation.com/>

Nominations Sought for Educators' Workshop

A 10-day experiential leadership program that bridges together teachers, business people, policy-makers as well as potential community leaders interested in learning and

being inspired by science and traditional knowledge management practices is being sponsored by staff of Papahānaumokuākea Marine National Monument. This program is designed to not only create a greater understanding of the monument but also to inspire community environmental stewardship at a grassroots local level. The program will be offered from June 13 through 23, 2009. Nominations from educators in formal and informal settings, community leaders, and people in positions that support community change and stewardship will be accepted. The deadline for nomination is January 2, 2009.

http://papahanaumokuakea.gov/education/teachers_midway.html

Outstanding Earth Science Teacher Awards

The National Association of Geoscience Teachers offers Outstanding Earth Science Teacher awards, given for exceptional contributions to the stimulation of interest in the Earth Sciences at the secondary level. Middle school and high-school teachers are eligible. The deadline for application is February 1, 2009.

<http://www.nagt.org/nagt/programs/oest.html>

P3 Awards

The annual P3 Awards, People, Prosperity and the Planet Student Design Competition for Sustainability, will provide grants to teams of college students to research, develop, and design solutions to challenges to sustainability. P3 highlights people, prosperity, and the planet - the three pillars of sustainability - as the next step beyond P2 or pollution prevention. The deadline for entry is December 23, 2008.

<http://es.epa.gov/ncer/p3/>

Planet Connect High School Challenge Grants

The National Environmental Education Foundation's Planet Connect Program, developed in partnership with The Weather Channel, can help high school students with an innovative solution to protect the environment. Awards include local environmental internships. The deadline for application is January 20, 2009.

<http://www.planet-connect.org/>

Project AWARE Foundation Grants

The Project AWARE Foundation is committed to the preservation of the aquatic environment and its resources throughout the world through education, advocacy, and action. The Foundation provides grants for the conservation of both marine and freshwater underwater environments, with a focus on coral reefs, shark protection, sustainable fisheries, ecotourism, shoreline cleanups, and aquatic education for children. Grants are reviewed quarterly; the next deadline for application is December 15, 2008.

http://www.projectaware.org/english/grants/grant_information.aspx

Richard C. Bartlett Environmental Education Award

The National Environmental Education Foundation offers the Richard C. Bartlett Environmental Education Award, honoring an outstanding educator of grades 5-12 who has successfully integrated environmental education into his or her daily education programs. The deadline for nomination is January 31, 2009.

<http://www.neefusa.org/bartlettaward.htm>

River of Words Art and Poetry Contest

River of Words is an international environmental poetry and art contest on the theme of watersheds. The contest is open to youth ages 5-19. The contest is designed to help

youth explore the natural and cultural history of the place they live, and to express, through poetry and art, what they discover, designed to nurture respect and understanding of the natural world. U.S. entries must be postmarked by February 15, 2009; international entries are due by March 1, 2009.

<http://www.riverofwords.org/contest/index.html>

Share the Experience Photo Contest

Share up to three photos from your experience in America's Federal Recreation Lands by capturing the scenic, natural, and historical wonders. The deadline for submission is December 31, 2008.

<http://nationalparks.eprize.net/experiencecontest2008/index.tbapp>

Teacher at Sea Program

NOAA's Teacher at Sea program gives teachers a clearer insight into our ocean planet, a greater understanding of maritime work and studies, and increases their level of environmental literacy by fostering an interdisciplinary research experience. The program provides a unique environment for learning and teaching by sending kindergarten through college-level teachers to sea aboard NOAA research and survey ships to work under the tutelage of scientists and crew. Then, armed with new understanding and experience, teachers bring this knowledge back to their classrooms. The deadline for application is December 31, 2008.

<http://teacheratsea.noaa.gov/>

Transition to Teaching Grant Program

The Transition to Teaching program encourages the development and expansion of alternative routes to full State teacher certification, as well as the recruitment and retention of highly qualified mid-career professionals, recent college graduates who have not majored in education, and highly qualified paraprofessionals as teachers in high-need schools operated by high-need local educational agencies. The deadline for the Notice of Intent to Apply is December 15, 2008.

<http://edocket.access.gpo.gov/2008/E8-26870.htm>

Young Naturalist Awards Competition

The American Museum of Natural History and Alcoa Foundation offer the Young Naturalist Awards, an inquiry-based research competition, inviting students in grades 7-12 to conduct research in the natural world. Students investigate questions they have in the areas of ecology, biology, Earth science, and astronomy and present their findings in an essay. The deadline for entry is March 2, 2009.

<http://www.amnh.org/nationalcenter/youngnaturalistawards/>

CONFERENCES, WORKSHOPS, AND PROFESSIONAL DEVELOPMENT

Climate Discovery Courses for Educators - Online

The National Center for Atmospheric Research offers a series of six-week online courses for middle and high school science teachers, combining geoscience content, current climate research, easy to implement hands-on activities, and group discussion. Registration is open for courses running January 23-March 15, 2009.

<http://ecourses.ncar.ucar.edu/>

Environmental Communication for Behavior Change - Online

The Duke Environmental Leadership Program offers the online course, Environmental Communication for Behavior Change, January 13-February 22, 2009. The course provides environmental professionals with an introduction to the strategies and tools of environmental communication that effectively lead to changes in behavior. The environmental social marketing tools gained will benefit all practicing environmental professionals faced with the challenge of changing behaviors. The deadline for registration is December 23, 2008.

<http://www.nicholas.duke.edu/del/continuinged/envcommunication.html>

International Marine Conservation Conference

The 2009 International Marine Conservation Conference will take place May 19-24, 2009 in Washington, D.C. The conference goal is to put conservation science into practice through public and media outreach and the development of science-based deliverables that will be used to drive policy change and implementation. Major themes include marine protected areas, fisheries and aquaculture, global climate change; the land-sea interface; ecosystem-based management; and poverty and globalization. The meeting also will serve as the 2nd International Marine Protected Areas Congress (IMPAC2). A pre-conference "MPA University" will offer training opportunities for MPA professionals on May 16-19, 2009.

<http://www2.cedarcrest.edu/imcc/index.html?CFID=680340&CFTOKEN=57558991>

Learning Ocean Science through Ocean Exploration - Various

NOAA's Ocean Exploration Program and partners will offer introductory and follow-up Learning Ocean Science through Ocean Exploration professional development workshops for science teachers. Participants will receive the curriculum with CD-ROM's, certificates of participation, and more. Contact the noted educator for registration and more information.

- California with SeaWorld Adventure Camp, a follow-up workshop January 31, 2009. The deadline for registration is January 16, 2009. Contact Adrienne Marriott at Crec9a@hotmail.com
- Virginia with Nauticus, The National Maritime Center and Norfolk Public Schools, a follow-up workshop January 31, 2009. The deadline for registration is January 16, 2009. Contact Veronica Haynes at vhaynes@nps.k12.va.us
- South Carolina with South Carolina Aquarium, a follow-up workshop February 7, 2009. The deadline for registration is January 23, 2009. Contact Brian Thill at BThill@scaquarium.org
- Hawaii with Waikiki Aquarium, February 21, 2009. The deadline for registration is February 6, 2009. Contact Dan VanRavenswaay at danv@hawaii.edu
- Georgia with Georgia Aquarium, a follow-up workshop March 7, 2009. The deadline for registration is February 20, 2009. Contact Kim Morris-Zarneke at kzarneke@georgiaaquarium.org
- Alabama with Dauphin Island Sea Lab, a follow-up workshop March 14, 2009. The deadline for registration is February 27, 2009. Contact Denise Keaton at dkeaton@disl.org
- Florida with University of South Florida College of Marine Science, a follow-up workshop March 21, 2009. The deadline for registration is March 6, 2009. Contact Teresa Greely at greely@marine.usf.edu

Students on Ice - Antarctica

Experience a ship-based university expedition to Antarctica. University students and faculty members will embark on a journey to Antarctica to experience and learn firsthand the effects of climate change in one of the planet's most remote places. Students on Ice Expeditions is organizing the International Polar Year Antarctic University Expedition 2009, a two-week ship-based field course leaving Argentina from February 14-28, 2009. Additional expeditions are also planned.

<http://www.studentsonice.com/>

Summer Teacher Workshops – Alabama

The 2009 Summer Teacher Workshops at the Dauphin Island Sea Lab are now open for registration. These workshops will help you bring the oceans, marshes, and barrier islands into the classroom. Some workshops are free; note registration deadlines on the website. Workshops include:

- The Delta, May 31-June 4, 2009
- Marine Application of Science and Technology (MAST), June 7-12 and July 12-17, 2009
- Centers for Ocean Sciences Education Excellence: Central Gulf of Mexico (COSEE: CGOM), June 21-26, 2009
- Coastal Connections Linking Watersheds to the Gulf of Mexico, July 6-10, 2009
- Sharks and Rays, July 20-24, 2009
- Submerged Grassbeds of the Northern Gulf of Mexico, July 26-30, 2009

<http://dhp.disl.org/teachertraining.htm>

World Ocean Conference

The World Ocean Conference 2009, May 11-15, 2009 in Manado, Indonesia, is forum for the world community to discuss current issues in the marine field which are related to climate change, in order to achieve an international agreement and draw up an adaptive strategy to use of marine resources wisely for the benefit of humanity.

<http://www.woc2009.org/home.php>

EDUCATIONAL RESOURCES

Alaska Seas and Rivers Curriculum

Visit Alaska Sea Grant's website to download the new online Alaska Seas and Rivers marine/aquatic curriculum. Developed by Alaskan teachers, the curriculum offers units for use by teachers and homeschoolers, interpreters, youth groups, and others.

<http://seagrant.uaf.edu/marine-ed/curriculum/>

Be Water Wise!

National Environmental Education Week (EE Week), April 12-18, 2009, promotes the understanding and protection of the natural world by actively engaging students and educators of all subjects in a week of environmental learning and service before Earth Day. This year's EE Week theme is *Be Water Wise!* The website offers a water-themed Nature Journaling blog, lesson plans, and more.

<http://www.eeweek.org/>

Beach Chair Scientist

The purpose of this website and blog is to bring a simplified perspective to the questions one might have while relaxing on the beach.

<http://www.beachchairscientist.com/>

CERMES Guides

The mission of the Centre for Resource Management and Environmental Studies at the University of the West Indies is to make a significant contribution to sustainable development. The *Information and Reports* section of the website includes a variety of manuals, including the downloadable *Reef Watchers Under H2O Guides*, *The Junior Coral Reef Ambassador Training Manual*, and more.

http://www.cavehill.uwi.edu/cermes/folkestone_info.html

Climate Literacy: Essential Principles and Fundamental Concepts

The Climate Literacy Network offers a climate science literacy guide to serve as a framework for understanding and communicating about climate science. Points in the guide can serve as discussion starters or launching points for scientific inquiry. The guide can also serve educators who teach climate science principles as a way to meet learning standards in their science curriculum. The website offers links to additional student and teacher resources.

<http://climateliteracynow.org/>

Communicating on Climate Change

The Metcalf Institute for Marine & Environmental Reporting has published a book summarizing the discussions and recommendations that arose from a series of workshops on the communication of climate change. *Communicating on Climate Change: An Essential Resource for Journalists, Scientists, and Educators* is a final report of the science communication workshops, funded by the Paleoclimate Program in the National Science Foundation's Division of Atmospheric Sciences. The report is downloadable from the website.

http://www.metcalfinstitute.org/Communicating_ClimateChange.htm

Exploration through Navigation Challenge

In the Fall 2008 NASA Quest Challenge, students will first be tasked to chart a course from the Big Island of Hawai'i to Rapa Nui (Easter Island) using ocean navigation skills that were used in early Polynesian exploration. In Part II of the Challenge, students will be tasked to chart a course from Kennedy Space Center at Cape Canaveral, Florida to one of the lunar poles using navigation skills appropriate for outer space. At the end of the Challenge, students will be asked to compare and contrast methods of navigating on Earth (at sea) and in space. The essential question that will keep students on task will be "How do you stay on course?" See the website for an educator guide and much more.

<http://quest.nasa.gov/challenges/lcross2/index.html>

For The Sea

For The Sea Productions was created to promote marine environmental protection via visual experience. The website offers video and photos to engage, entertain, and raise awareness of the critical need for conservation of the oceans. The Hawaii Reef Etiquette PSA is available for downloading in English and Japanese.

<http://www.forthesea.com/>

Making Waves

NOAA's National Ocean Service (NOS) Communications and Education Division has launched a weekly podcast, *Making Waves*. The podcasts highlights current activities,

recent discoveries, and other happenings around NOS and will be launched each Friday. The website also offers links from each episode, along with downloadable transcripts of the podcasts.

<http://oceanservice.noaa.gov/podcast.html>

Marine Science Lab Manuals

AMSCO offers textbooks and support materials to the educational community. The course texts, review, and test prep books reflect national and state standards for curriculum and assessment. They offer each new title available for downloading from their website, for a limited time. They also provide sample chapters from some additional titles. In addition, they provide a 30-day free trial on selected Amsco titles in digital format. Use the links at the top of the home page to see what's currently available, including Marine Science Lab Manuals.

<http://www.amscopub.com/frameset.htm>

Mark Trail Activity Book

Mark Trail's *Living on the Wild Side Responsibly* is a fire education activity book, appropriate for grades 3-6, about living near wildlands. The activities in this book address either all or part of some of the National Achievement Standards depending on how thoroughly the activity is completed or if expansions to the base activity are created. (Note: it is not downloadable from the website.)

http://www.sref.info/spotlight/News_Item.2006-07-13.4738

National Teach-in on Global Warming Solutions

On February 5, 2009, the National Teach-In on Global Warming Solutions will engage Americans in solutions-driven dialogue, including young people, national political leaders, and other key decision-makers. The website has links to information about weekly planning calls, educational resources, and more.

<http://nationalteachin.org/>

OceanGLOBE

OceanGLOBE is a beach research and outdoor environmental education program for upper elementary, middle, and high school students created by the UCLA Marine Science Center. OceanGLOBE provides a mechanism for students to conduct marine science over an extended period of time, giving them experiences that anchor the national and state science standards learned in the classroom. The website includes slide shows, photos, and classroom activities and field research guides.

<http://www.msc.ucla.edu/oceanglobe/about.htm>

Online Education Resources from the Yale Peabody Museum

The fellows at the Yale Peabody Museum have developed a variety of curriculum units that are available for downloading for use by educators in classroom settings.

Biodiversity and Global Change: Lobster Die-off! was developed during the Peabody Fellows Professional Development Program, while units developed by fellows in the Biodiversity Institute include *Happy as a Clam: Mollusks of Long Island Sound*, *The Water Traveler: Pollution*, and many more. Those developed through workshops and seminars include *Connecticut Population Ecology*, *The River Runs Through It*, and others.

http://www.peabody.yale.edu/education/ed_curric.html

Stetson Bank Monitoring Activity

The Stetson Bank Monitoring Activity from the Flower Garden Banks National Marine Sanctuary is designed to give students a sense of the real-life science being used to monitor habitats in the sanctuary. Long-term monitoring efforts at the sanctuary include the use of repetitive photo stations; pins mark locations on the reef where researchers return each year to take photos. By comparing photos from year to year they can evaluate the changes taking place on the reef. The website hosts the downloadable activity and photos.

http://flowergarden.noaa.gov/image_library/stetsonimages.html

Weird & Wonderful Wildlife Poster

The U.S. Fish & Wildlife Service offer this new endangered species poster, Weird & Wonderful Wildlife, aimed at kids and the young at heart, highlighting 14 species with odd-sounding names. Most are endangered or threatened, and several are candidates for listing under the Endangered Species Act. The artist imagined what they might look like based on their names, and one side of the poster is a collage of fanciful illustrations; the other side features photos of the plants and animals, accompanied by a few fun facts. The poster is available for free.

<http://www.fws.gov/endangered/kidsposter.html>

INITIATIVES, JOURNALS, and MORE

GLOBE Student Research Campaign on Climate Change 2011-2013

Planning for the GLOBE Student Research Campaign on Climate Change will begin in January 2009, and will enlist the support of climate change scientists, science educators and educational outreach experts, as well as businesses, foundations, and policy makers. The campaign will culminate with an international student research conference in 2013.

<http://globe.gov/r/html/climatechange>

Linkages and LAND-L List

The International Institute for Sustainable Development supports Linkages, offering news, information, and analysis on international environment and sustainable development, negotiations, and policy making. Many lists are available, including OCEANS-L, CLIMATE-L, WATER-L, and more. The latest launch is the LAND-L announcement list, to provide a free, moderated, community communications tool, allowing subscribers to post announcements related to desertification, land degradation and drought, as well as sustainable land management events, policy developments, publications and new initiatives. LAND-L is not a discussion list and is limited to non-commercial, non-political announcements.

<http://www.iisd.ca/email/subscribe.htm>

MTV Switch

Switch is MTV Networks International's Global Climate Change Campaign. It is available in English and Spanish. The website offers ads, videos, tips from Environmentors, and a blog.

<http://www.mtvswitch.org/>

Special Days

Sylvan Dell Publishing offers a running calendar of some fun-to-celebrate events on their website. In addition to World Wetlands Day, there is a Cephalopod Awareness Day and even a Festival of Sleep Day. Daily themes include links to appropriate books, ideas, and free activities.

<http://www.sylvandellpublishing.com/SpecialDays.htm>

Sustainable Sites Initiative

The Sustainable Sites Initiative is an interdisciplinary effort by the American Society of Landscape Architects, the Lady Bird Johnson Wildflower Center, and the United States Botanic Garden to create voluntary guidelines and performance benchmarks for sustainable land design, construction, and maintenance practices. Similar to the LEED certification process for buildings, the initiative attempts to create a system to guide and develop sustainable landscapes in concert with sustainable and green buildings. A draft of the Sustainable Sites Initiative Guidelines and Performance Benchmarks is downloadable from the website.

<http://www.sustainablesites.org/>

Year of Science

The Year of Science 2009 website offers many reasons to celebrate science, from astronomy to zoology, supporting public understanding of the process and nature of science in an exploration of how we know what we know. Monthly celebrations include weather and climate, biodiversity and conservation, and more. For June's Ocean and Water theme, the website will feature a slide show entitled *A Day Without the Ocean*. They are collecting digital images (photos or scanned drawings) from the ocean education community, scientists, teachers, students, and anyone else interested, that illustrate what the world would be like if we lost this vital resource for a day.

<http://www.yearofscience2009.org/>